R&K Engineering Planning Systems
MWR Fitness Facilities Support Budget
Initial POM 12 Requirements

R&K Engineering Planning Systems

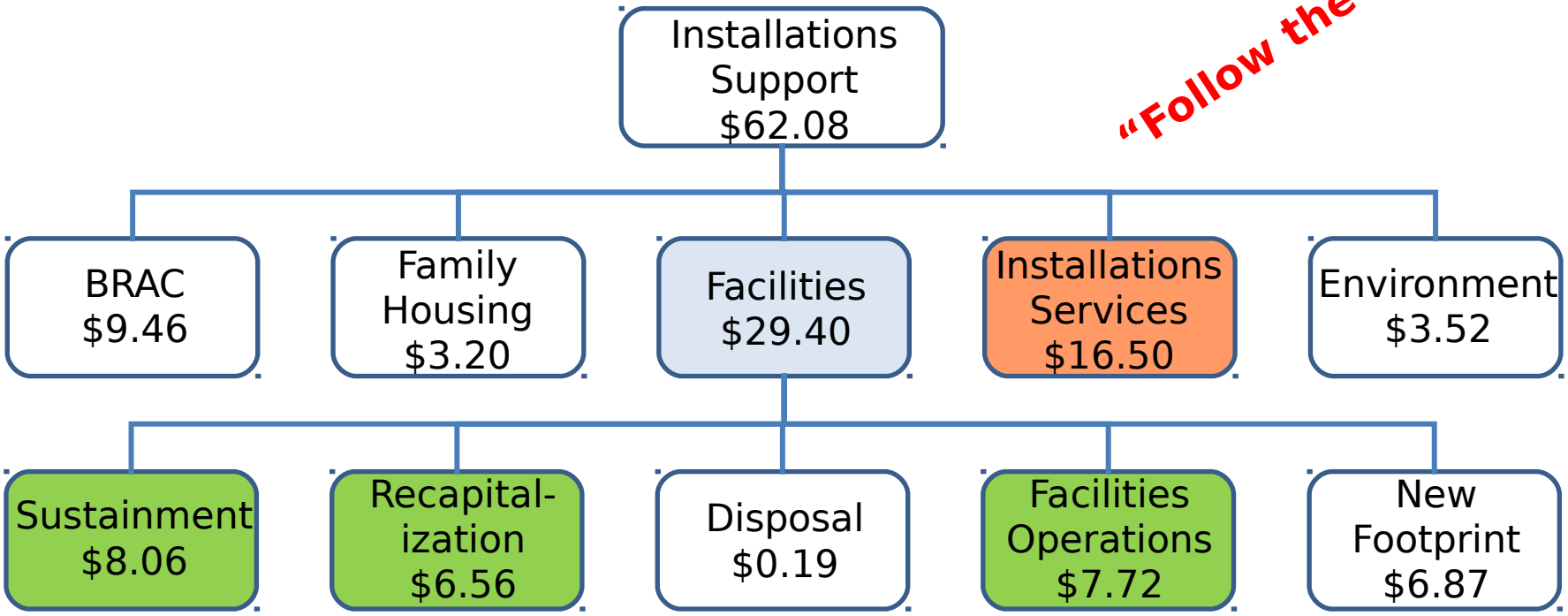
Purpose Of This Presentation

Describe the Application of the DoD Facilities Budget Models to MWR Fitness Facilities.

R&K Engineering Planning Systems

DoD Models & Metrics for Facilities Programs

"Follow the Money"



Deployed Models/Metrics

Under development

DoD Planned FY09 Funding
(Billions of dollars shown)

Suite of Macro Level Tools

- **Facilities Sustainment Model**

  - **Defines costs to keep an inventory of facilities, functional through their expected service lives**

- **Facilities Modernization Model**

  - **Defines costs to keep an inventory of facilities modernized, beyond their expected service lives**

- **Facilities Operation Model**

  - **Defines cost to operate an inventory of facilities:**

    Utilities, Grounds, Pavement Clearing, Custodial, Pest Control,

    Refuse, Real Property Management, Fire Protection, Leases

The Family Car Analogy

- **Facilities Sustainment Model**

Like the costs to keep your car running for five years or 100,000 miles: routine maintenance, oil & filter changes, brake pads & disks, battery replacement.

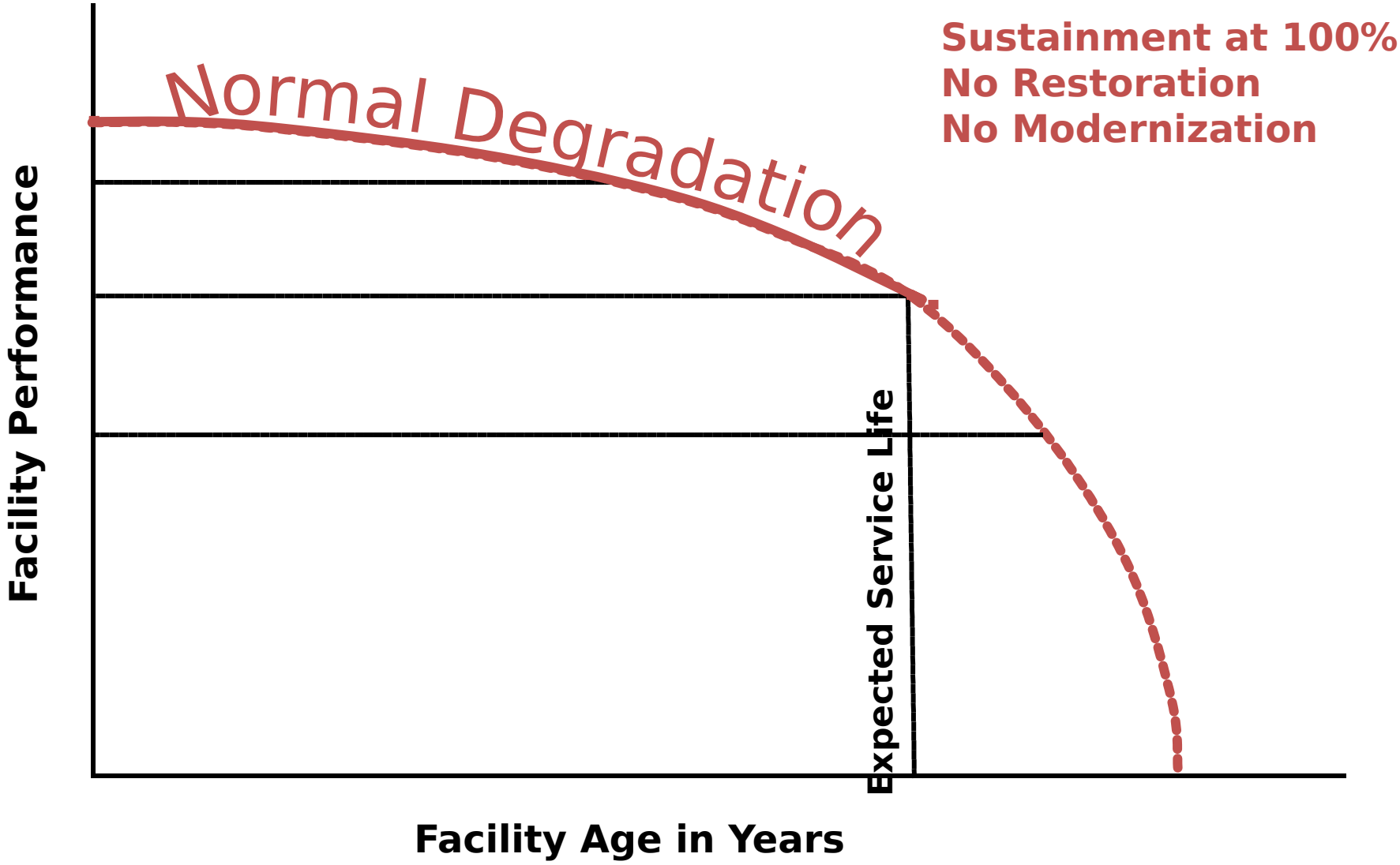
- **Facilities Modernization Model**

  - **Like the costs to keep your car running and up to standards past 5 years or 100,000 miles: timing belt, water pump, air-bags, navigation system, replace car**

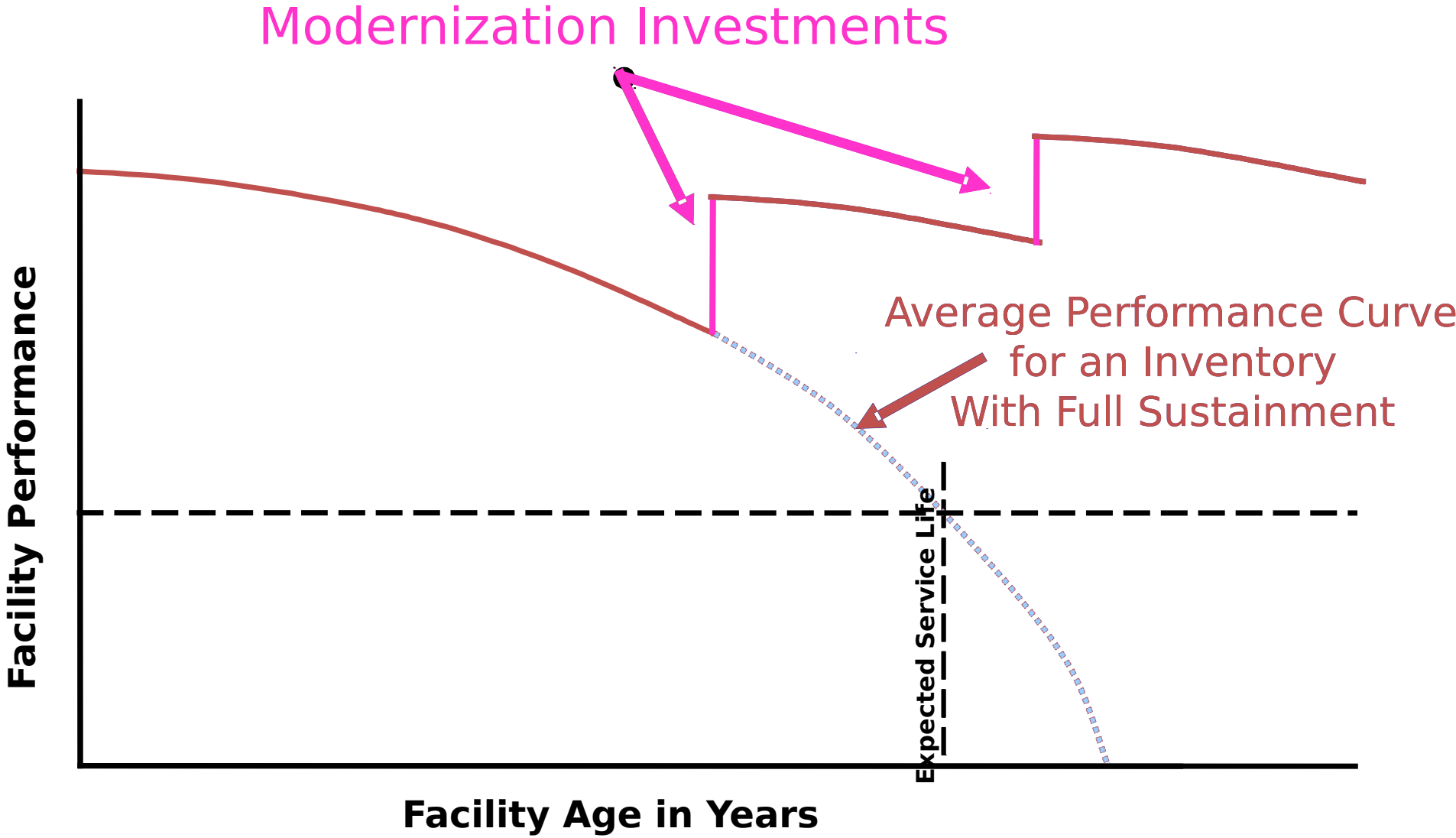
- **Facilities Operation Model**

  - **Like the cost to operate your car on an annual basis: gasoline, car wash, insurance**

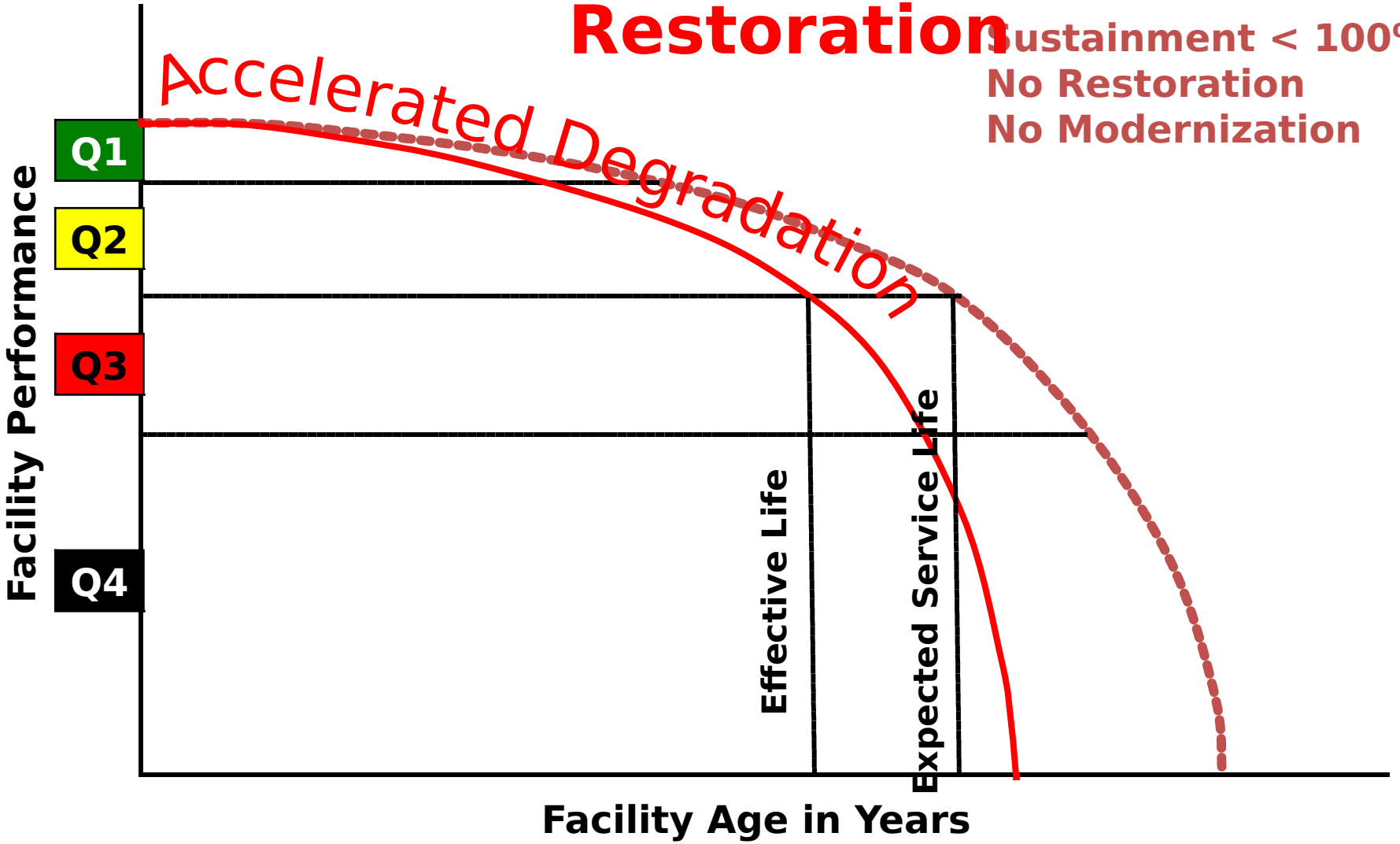
Facilities Will Degrade Even At Full Sustainment



Modernization Is Needed To Meet Current Standards


Modernization Investments
Average Performance Curve for an Inventory With Full Sustainment
Facility Performance
Expected Service Life
Facility Age in Years

Impacts Of Reduced Sustainment and Old-Age Is Restoration



Real Property Classification System (RPCS)

Facility Classes
(1-Digit)

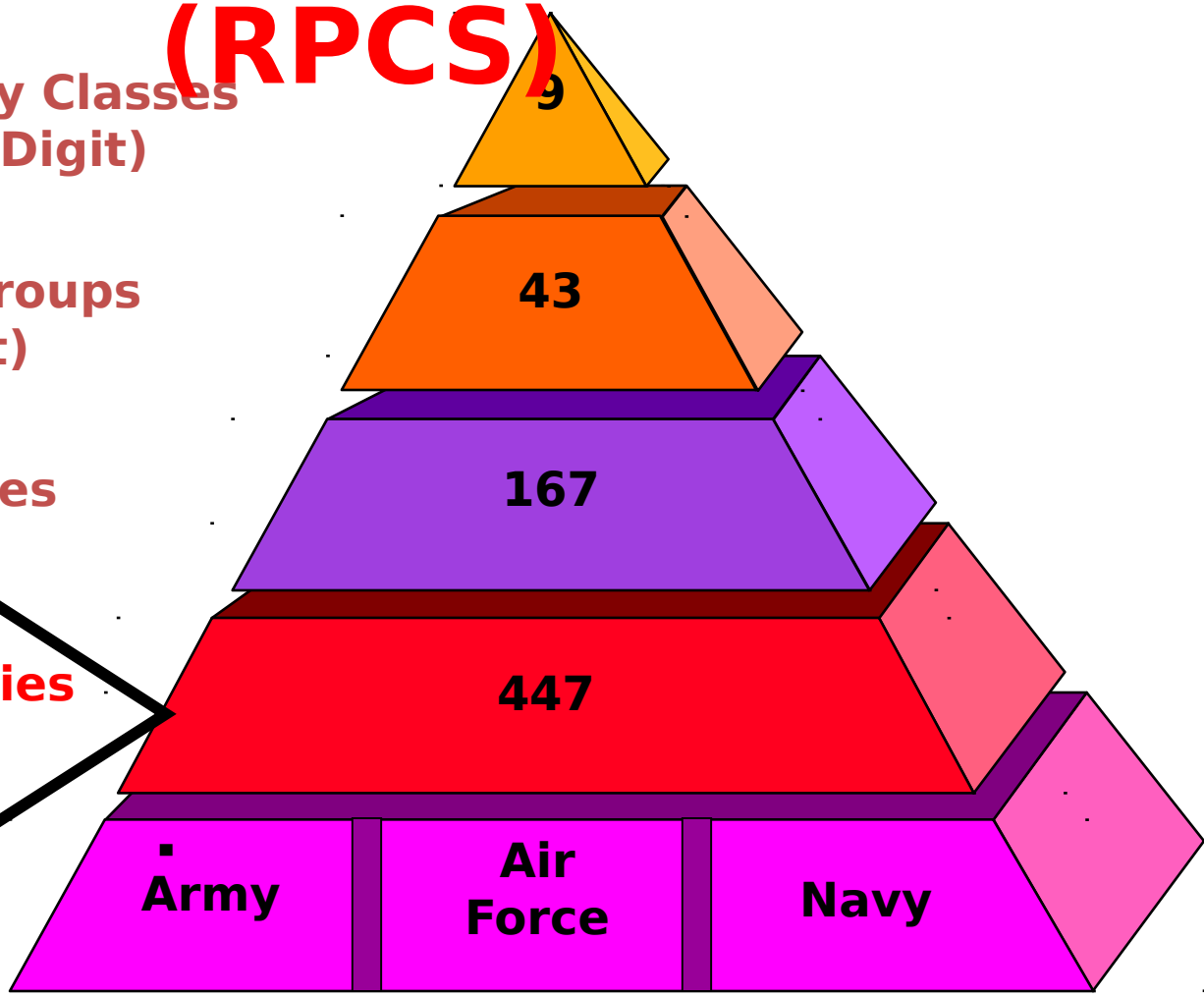
Category Groups
(2-Digit)

Basic Categories
(3-Digit)

This is the Key

Facility Analysis Categories (4-Digit)

Service Category Codes
(5 or 6-Digit)



MWR Facility Types Considere

MWR FITNESS FACILITIES

Indoor:

- Indoor Physical Fitness Facility
- Indoor Swimming Pool*

Outdoor:

- Outdoor Swimming Pool
- Outdoor Playing Court
- Athletic Field
- Running Track

* Often Indoor Pools and Physical Fitness Facilities are either co-located or reported as combined facilities. They are shown separately here but are treated as the same class of facility for analysis.

Service CATCODEs Included

Facility Type	Army	Navy	Air Force	Marine Corps
Physical Fitness	✓	✓	✓	✓
Indoor Pool	✓	✓	✓	✓
Outdoor Pool	✓	✓	✓	✓
Outdoor Court	✓	✓	✓	✓
Athletic Field	✓		✓	
Running Track		N/A		N/A

Levels of Support Considered

SUSTAINMENT:

- Full Modeled Costs, for all Installations
- Full Modeled Costs, Less Service Academy Fitness

NOTEs:

Recommend these be excluded as fitness facilities at Service Academies that are not as much [illegible], but mission.

RESTORATION:

- Costs to Achieve Mid-level Q2 (deficiencies = 15% PRV)
- Restoration Spread Over a 6-Year Period
- Full Calculated Costs, for all Installations
- Full Calculated Costs, Less Service Academy Fitness

Considers restoration to an adequate level of functionality over a 6-year period.

Also excludes contributions toward installation-wide operations (e.g. Real Property Management , Fire Protection and general Grounds Maintenance; grounds maintenance for Athletic Fields is still included though).

OPERATION:

- Full Modeled Costs, for all Functions
- Full Modeled Costs, Less Installation-Wide Functions
- Full Modeled Costs, for all Installations
- Full Modeled Costs, Less Service Academy Fitness

MODERNIZATION:

- Full Modeled Costs, for all Installations
- Full Modeled Costs, Less Service Academy Fitness

Facility Options Considered

FITNESS OPTION 1: All MWR Fitness Facilities

- Indoor Physical Fitness Facilities
- Indoor Swimming Pools
- Outdoor Courts
- Athletic Fields
- Outdoor Swimming Pools
- Running Tracks

FITNESS OPTION 2: Indoor Fitness Only

- Indoor Physical Fitness Facilities
- Indoor Swimming Pools

FITNESS OPTION 3:

- Indoor Physical Fitness Facilities
- Indoor Swimming Pools
- Outdoor Courts
- Athletic Fields

FITNESS OPTION 4:

- Indoor Physical Fitness Facilities
- Indoor Swimming Pools
- Outdoor Courts
- Athletic Fields
- Outdoor Swimming Pools

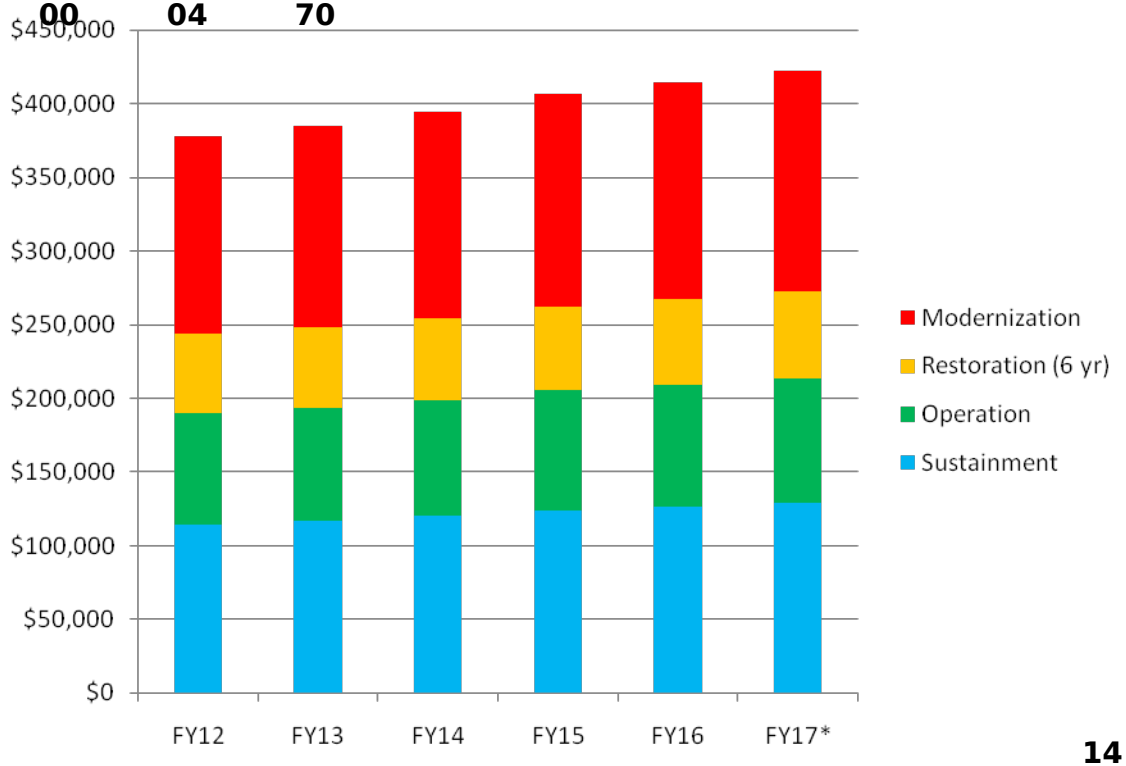
Combined Model Requirements
(MWR Fitness Option 1)

FACILITY SUPPORT REQUIREMENTS $K

MWR Fitness Option 1	FY12	FY13	FY14	FY15	FY16	FY17*
Sustainment	$114,516	$116,851	$120,134	$124,284	$126,758	$129,040
Operation	$75,179	$76,669	$78,563	$81,190	$82,690	$84,179
Restoration (6 yr)	$54,448	$55,175	$56,166	$57,148	$58,175	$59,222
Modernization	$133,796	$136,340	$139,911	$144,378	$147,181	$149,830
GRAND TOTAL FOR DOD	**$377,939**	**$385,035**	**$394,774**	**$407,000**	**$414,804**	**$422,270**

*Inflation 1.8% from FY16 to FY17

See Backup Slides for Services shares of these DoD Totals.



MWR FITNESS OPTION 1:

- **Covers all Fitness Facility Types**
- **Restoration to Mid-Level Q2 Over 6 Years**
- **Installation-Wide Operation Functions Excluded**
- **Service Academies**

Combined Model Requirements

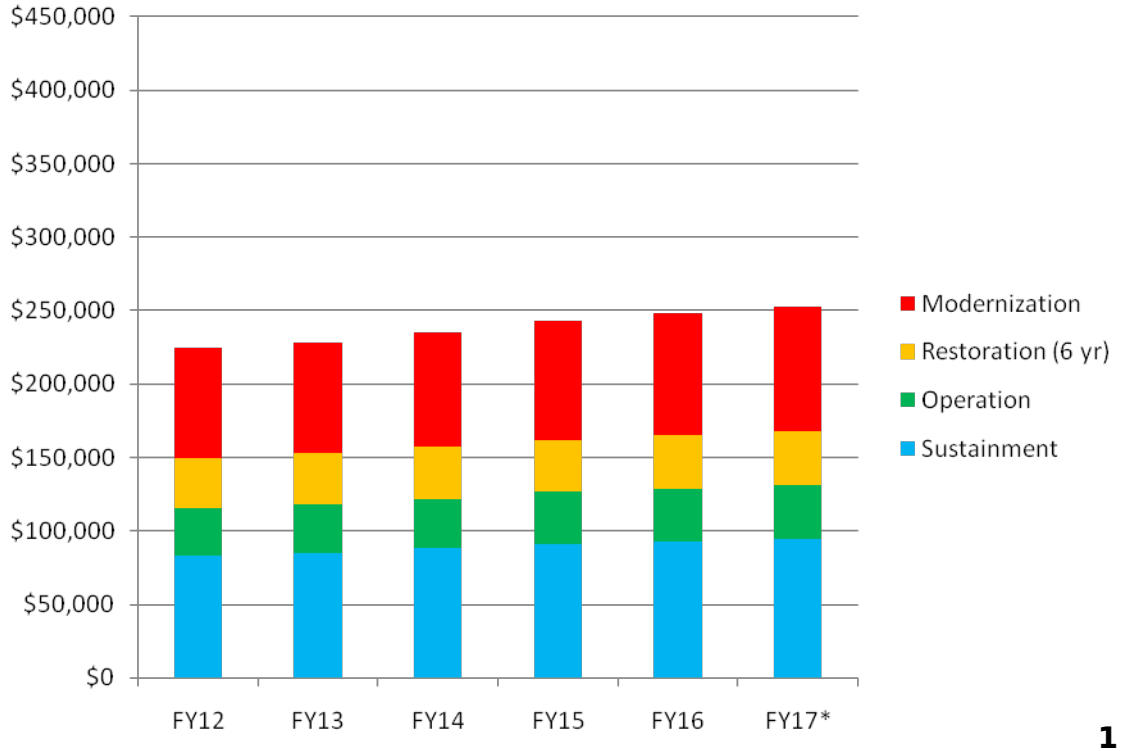
(MWR Fitness Option 2)

FACILITY SUPPORT REQUIREMENTS $K

MWR Fitness Option 2	FY12	FY13	FY14	FY15	FY16	FY17*
Sustainment	$83,640	$85,375	$88,029	$91,348	$93,217	$94,895
Operation	$32,273	$32,951	$33,979	$35,128	$35,747	$36,390
Restoration (6 yr)	$34,061	$34,441	$35,060	$35,691	$36,333	$36,986
Modernization	$74,286	$75,751	$78,117	$81,137	$82,812	$84,303
GRAND TOTAL FOR DOD	**$224,259**	**$228,519**	**$235,185**	**$243,305**	**$248,109**	**$252,575**

*Inflation 1.8% from FY16 to FY17

See Backup Slides for Services shares of these DoD Totals.



MWR FITNESS OPTION 2:

- **Covers Only Indoor Fitness Facility Types**
- **Restoration to Mid-Level Q2 Over 6 Years**
- **Installation-Wide Operation Functions Excluded**
- **Service Academies**

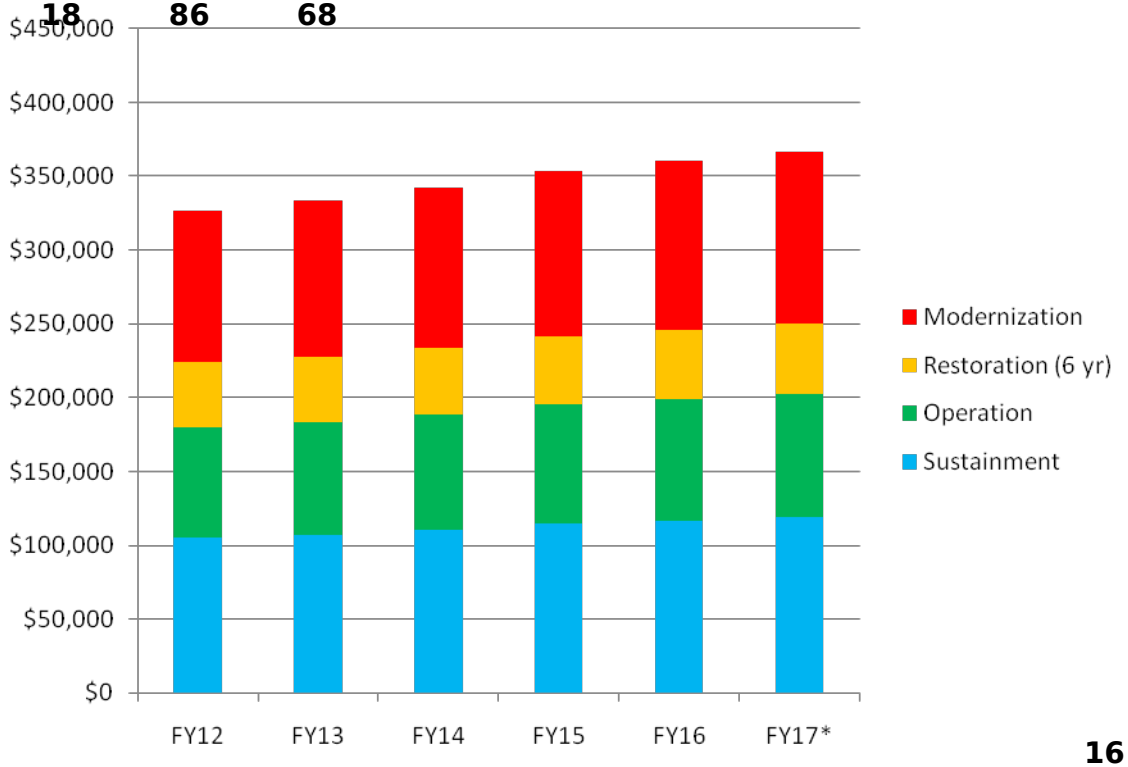
Combined Model Requirements
(MWR Fitness Option 3)

FACILITY SUPPORT REQUIREMENTS $K

MWR Fitness Option 3	FY12	FY13	FY14	FY15	FY16	FY17*
Sustainment	$105,231	$107,399	$110,492	$114,457	$116,757	$118,859
Operation	$74,877	$76,362	$78,249	$80,872	$82,366	$83,849
Restoration (6 yr)	$43,694	$44,238	$45,033	$45,819	$46,642	$47,482
Modernization	$103,184	$105,206	$108,163	$112,070	$114,320	$116,378
GRAND TOTAL FOR DOD	**$326,985**	**$333,205**	**$341,936**	**$353,218**	**$360,086**	**$366,568**

*Inflation 1.8% from FY16 to FY17

See Backup Slides for Services shares of these DoD Totals.



MWR FITNESS OPTION 3:

- **Covers Indoor Fitness Facility Types, Athletic Fields, & Outdoor Courts**
- **Restoration to Mid-Level Q2 Over 6 Years**
- **Installation-Wide Operation Functions Excluded**

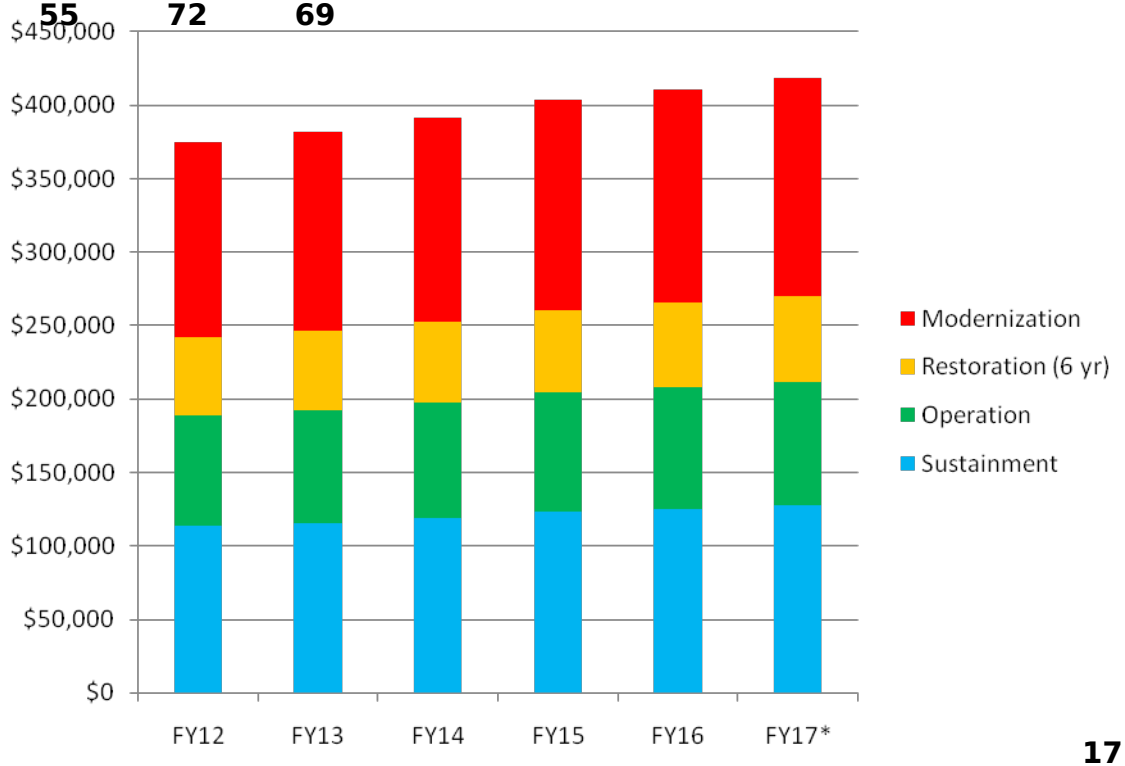
Combined Model Requirements
(MWR Fitness Option 4)

FACILITY SUPPORT REQUIREMENTS $K

MWR Fitness Option 4	FY12	FY13	FY14	FY15	FY16	FY17*
Sustainment	$113,419	$115,734	$118,990	$123,097	$125,542	$127,801
Operation	$75,179	$76,669	$78,563	$81,190	$82,690	$84,179
Restoration (6 yr)	$53,549	$54,261	$55,236	$56,206	$57,216	$58,246
Modernization	$132,301	$134,820	$138,354	$142,762	$145,524	$148,144
GRAND TOTAL FOR DOD	**$374,449**	**$381,484**	**$391,142**	**$403,255**	**$410,972**	**$418,369**

*Inflation 1.8% from FY16 to FY17

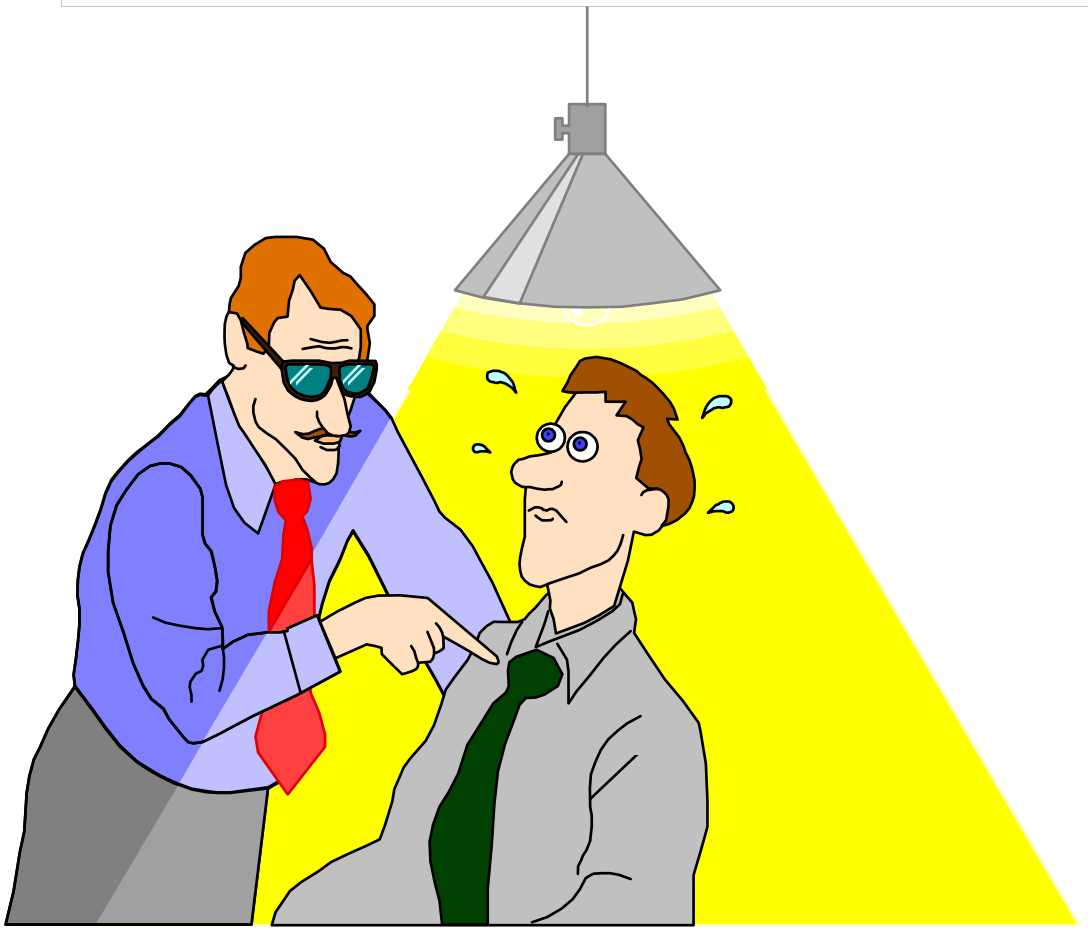
See Backup Slides for Services shares of these DoD Totals.



MWR FITNESS OPTION 4:

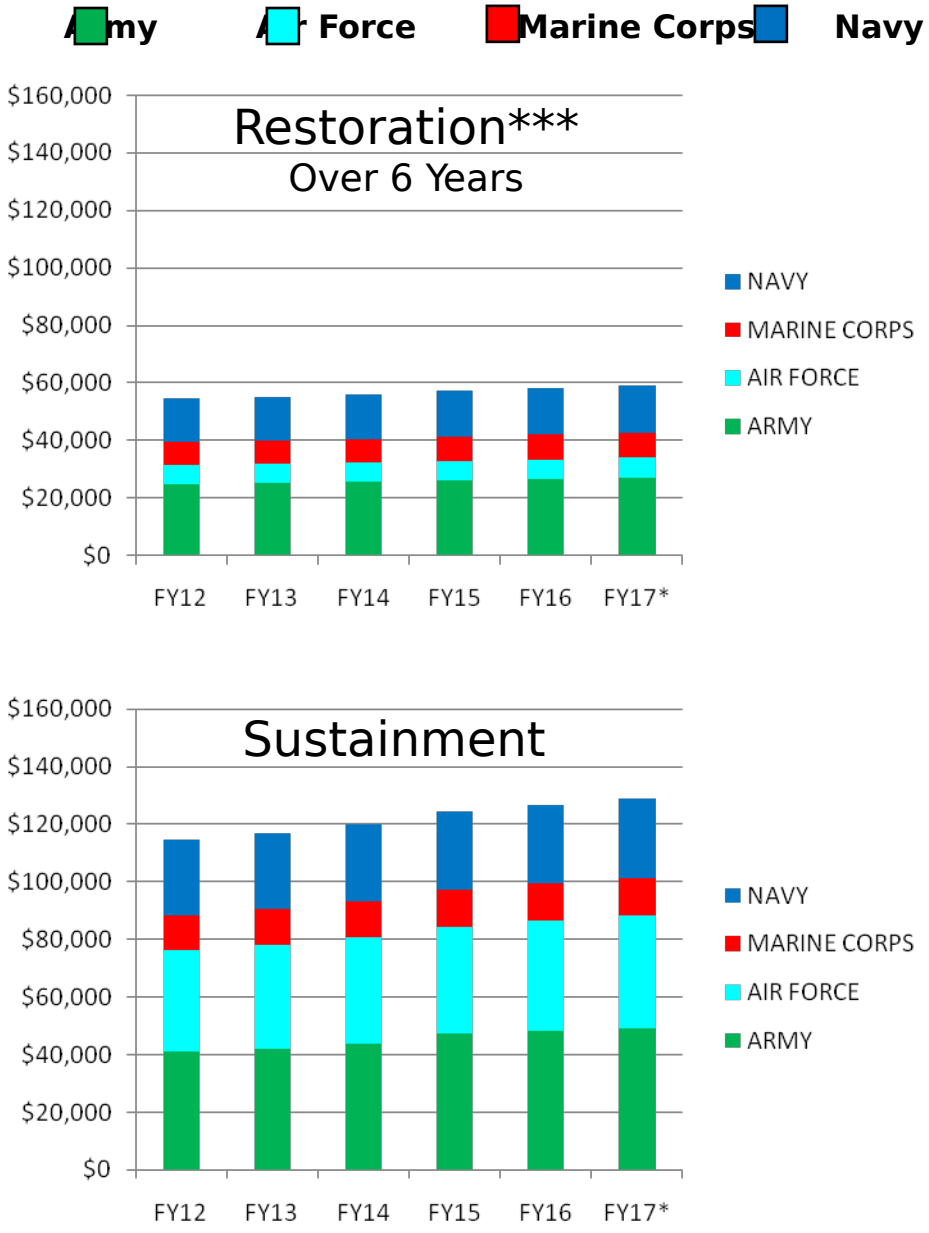
- **Covers Indoor Fitness Facility Types, Athletic Fields, Outdoor Courts, & Outdoor Pools**
- **Restoration to Mid-Level Q2 Over 6 Years**
- **Installation-Wide Operation Functions**

Questions?



Backup Slides

IWR Fitness Facilities Costs
ption 1



* Inflation 1.8% from FY16 to FY17

** Operation excludes Installation-Wide Functions

*** Restoration includes costs to achieve a median Q2 Quality rating of 15% over 6 years

MWR Fitness Facilities Costs
Option 1

MODERNIZATION REQUIREMENT $K

MWR FITNESS OPTION 1	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$49,322	$50,369	$52,207	$55,785	$57,189	$58,218
AIR FORCE	$39,827	$40,819	$41,731	$41,792	$42,854	$43,625
MARINE CORPS	$11,967	$12,197	$12,438	$12,662	$12,889	$13,121
NAVY	$32,680	$32,956	$33,535	$34,139	$34,248	$34,865
GRAND TOTAL FOR DOD	**$133,796**	**$136,340**	**$139,911**	**$144,378**	**$147,181**	**$149,830**

RESTORATION REQUIREMENT $K (6 yr)

MWR FITNESS OPTION 1	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$24,942	$25,280	$25,734	$26,168	$26,638	$27,117
AIR FORCE	$6,356	$6,464	$6,580	$6,699	$6,819	$6,942
MARINE CORPS	$7,985	$8,120	$8,266	$8,415	$8,566	$8,721
NAVY	$15,166	$15,311	$15,586	$15,867	$16,152	$16,443
GRAND TOTAL FOR DOD	**$54,448**	**$55,175**	**$56,166**	**$57,148**	**$58,175**	**$59,222**

OPERATION REQUIREMENT $K

MWR FITNESS OPTION 1	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$26,742	$27,271	$28,199	$30,164	$30,860	$31,415
AIR FORCE	$24,683	$25,301	$25,863	$26,085	$26,682	$27,162
MARINE CORPS	$7,983	$8,142	$8,296	$8,446	$8,598	$8,752
NAVY	$15,770	$15,955	$16,204	$16,496	$16,551	$16,849
GRAND TOTAL FOR DOD	**$75,179**	**$76,669**	**$78,563**	**$81,190**	**$82,690**	**$84,179**

SUSTAINMENT REQUIREMENT $K

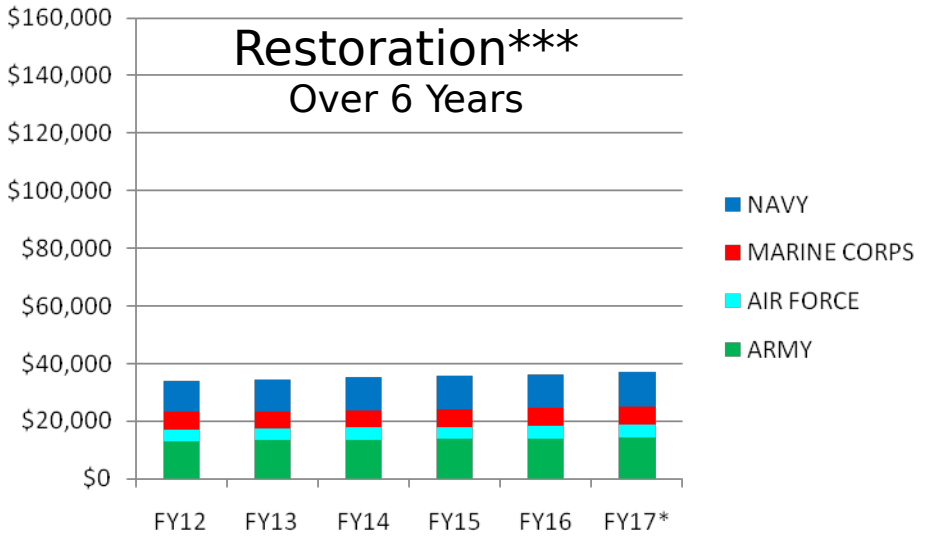
MWR FITNESS OPTION 1	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$41,012	$41,944	$43,660	$47,180	$48,474	$49,347
AIR FORCE	$35,391	$36,374	$37,233	$37,156	$38,172	$38,859
MARINE CORPS	$11,984	$12,230	$12,474	$12,698	$12,927	$13,159
NAVY	$26,128	$26,303	$26,768	$27,249	$27,185	$27,674
GRAND TOTAL FOR DOD	**$114,516**	**$116,851**	**$120,134**	**$124,284**	**$126,758**	**$129,040**

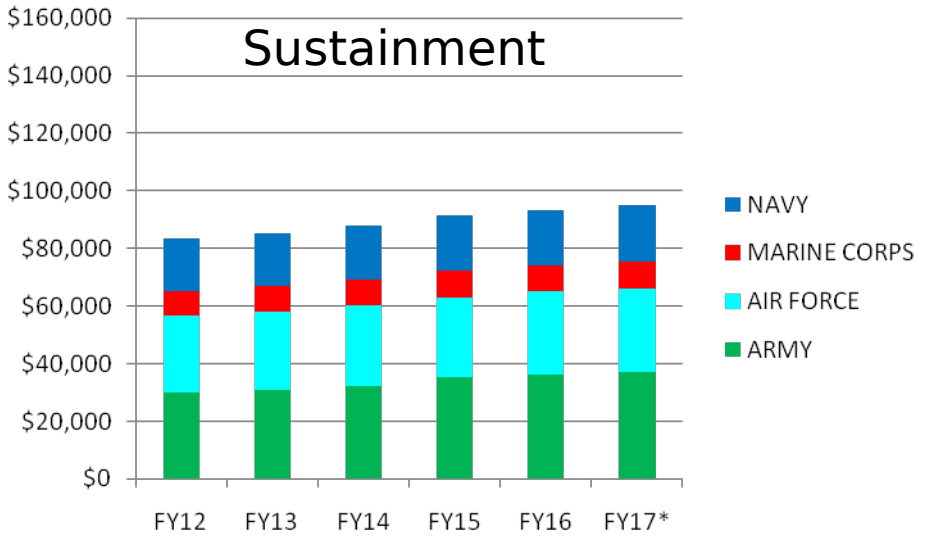
MWR FITNESS OPTION 1:

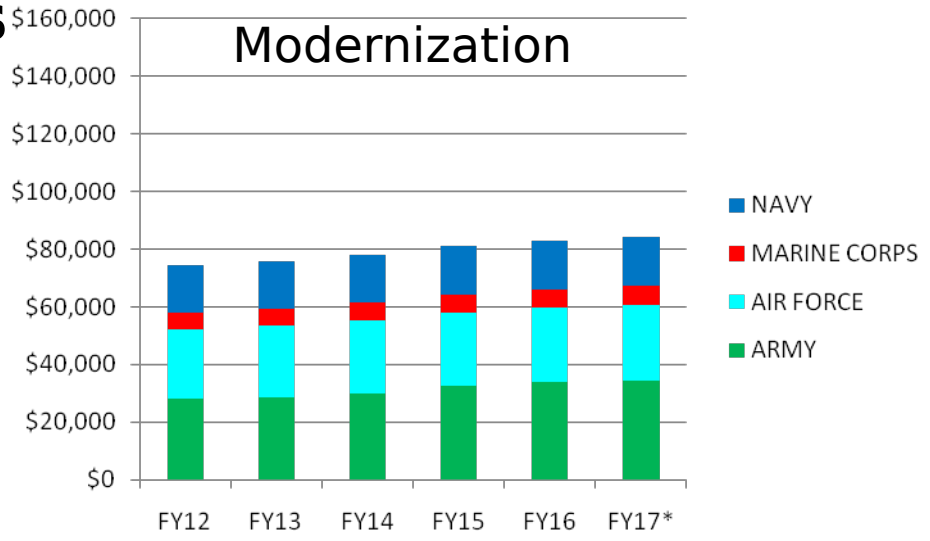
- Covers all Fitness Facility Types
- Restoration to Mid-Level Q2 Over 6 Years
- Installation-Wide Operation Functions Excluded
- Service Academies Excluded

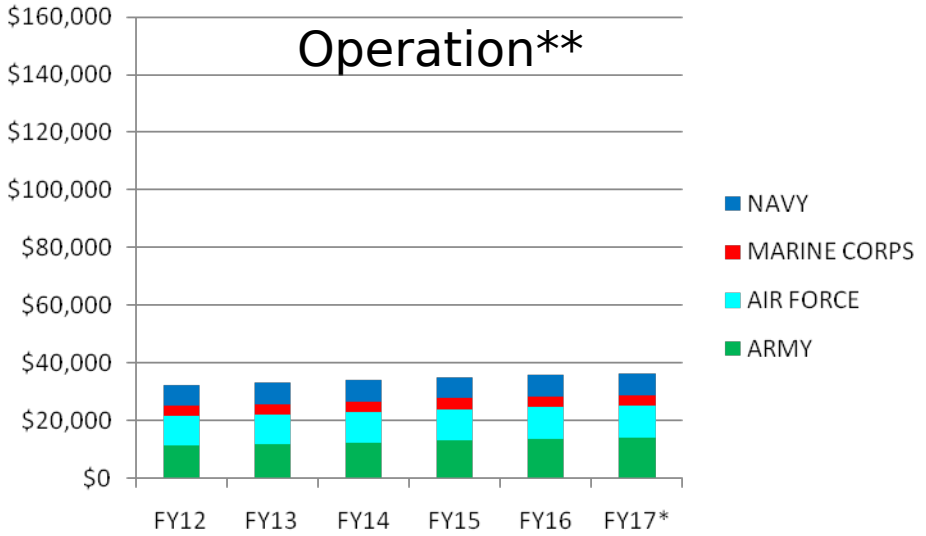
IWR Fitness Facilities Costs
ption 2

Army Air Force Marine Corps Navy









*** Inflation 1.8% from FY16 to FY17**

**** Operation excludes Installation-Wide Functions**

***** Restoration includes costs to achieve a median Q2 Quality rating of 15% over 6 years**

MWR Fitness Facilities Costs
Option 2

MODERNIZATION REQUIREMENT $K

MWR FITNESS OPTION 2	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$27,960	$28,609	$29,936	$32,748	$33,753	$34,361
AIR FORCE	$23,997	$24,688	$25,305	$25,100	$25,856	$26,321
MARINE CORPS	$5,892	$6,018	$6,146	$6,256	$6,369	$6,483
NAVY	$16,437	$16,436	$16,731	$17,033	$16,834	$17,137
GRAND TOTAL FOR DOD	**$74,286**	**$75,751**	**$78,117**	**$81,137**	**$82,812**	**$84,303**

RESTORATION REQUIREMENT $K (6 yr)

MWR FITNESS OPTION 2	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$13,197	$13,336	$13,575	$13,820	$14,068	$14,321
AIR FORCE	$4,014	$4,082	$4,156	$4,230	$4,306	$4,384
MARINE CORPS	$5,891	$5,991	$6,099	$6,208	$6,320	$6,434
NAVY	$10,959	$11,032	$11,231	$11,433	$11,638	$11,848
GRAND TOTAL FOR DOD	**$34,061**	**$34,441**	**$35,060**	**$35,691**	**$36,331**	**$36,986**

OPERATION REQUIREMENT $K

MWR FITNESS OPTION 2	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$11,458	$11,696	$12,247	$13,247	$13,586	$13,831
AIR FORCE	$10,146	$10,478	$10,755	$10,705	$11,026	$11,224
MARINE CORPS	$3,461	$3,539	$3,610	$3,675	$3,741	$3,809
NAVY	$7,207	$7,238	$7,368	$7,500	$7,393	$7,527
GRAND TOTAL FOR DOD	**$32,273**	**$32,951**	**$33,979**	**$35,128**	**$35,747**	**$36,390**

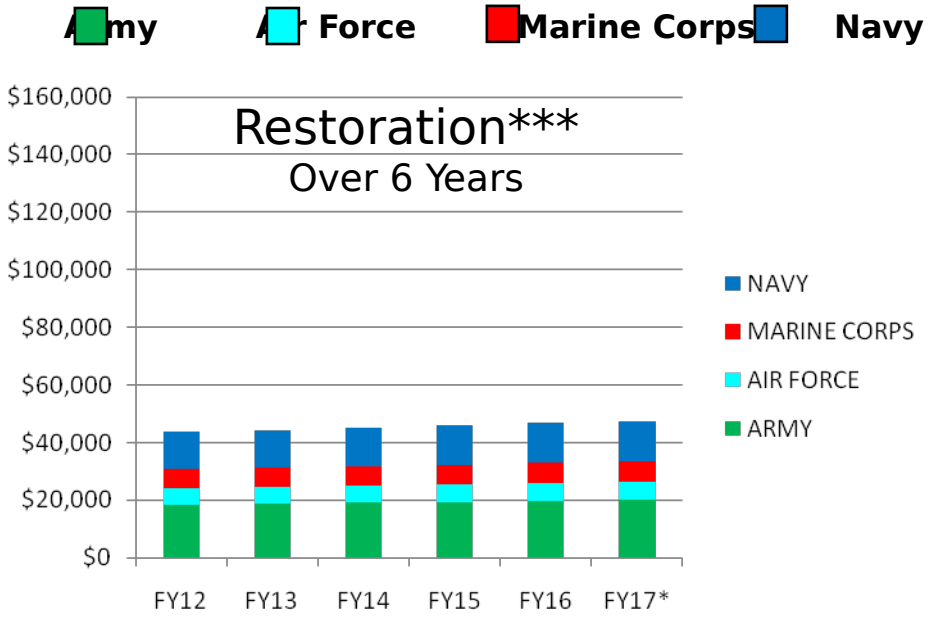
SUSTAINMENT REQUIREMENT $K

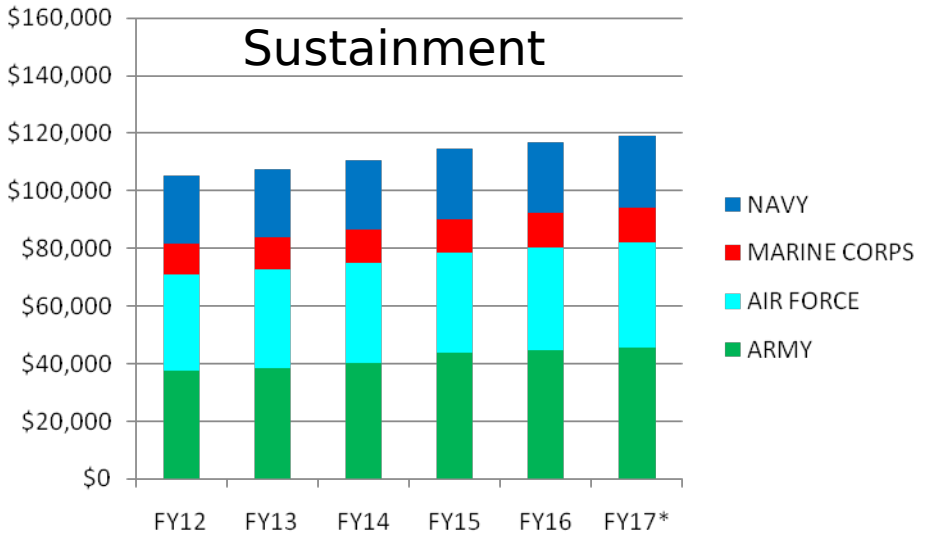
MWR FITNESS OPTION 2	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$30,104	$30,815	$32,265	$35,326	$36,398	$37,053
AIR FORCE	$26,519	$27,322	$28,014	$27,773	$28,616	$29,131
MARINE CORPS	$8,568	$8,752	$8,931	$9,091	$9,255	$9,422
NAVY	$18,449	$18,486	$18,820	$19,158	$18,948	$19,289
GRAND TOTAL FOR DOD	**$83,640**	**$85,375**	**$88,029**	**$91,348**	**$93,217**	**$94,895**

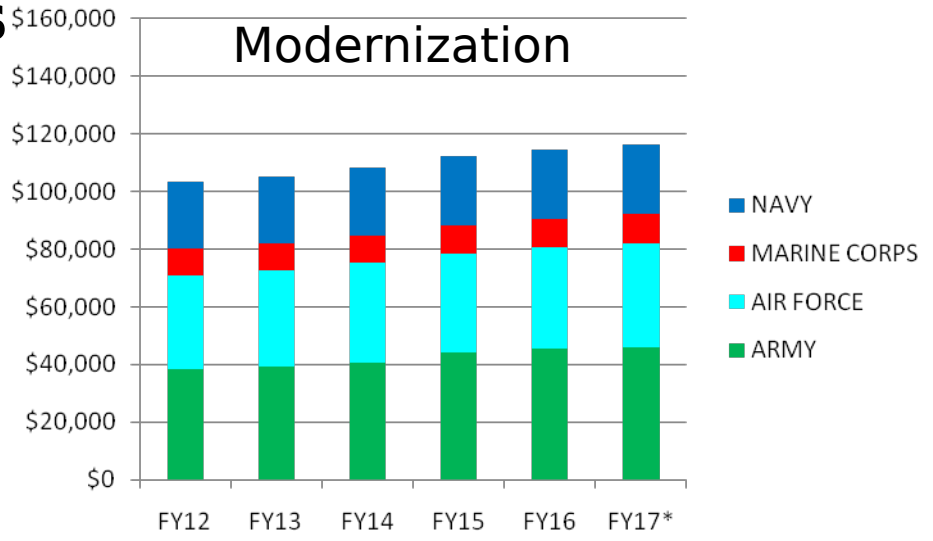
MWR FITNESS OPTION 2:

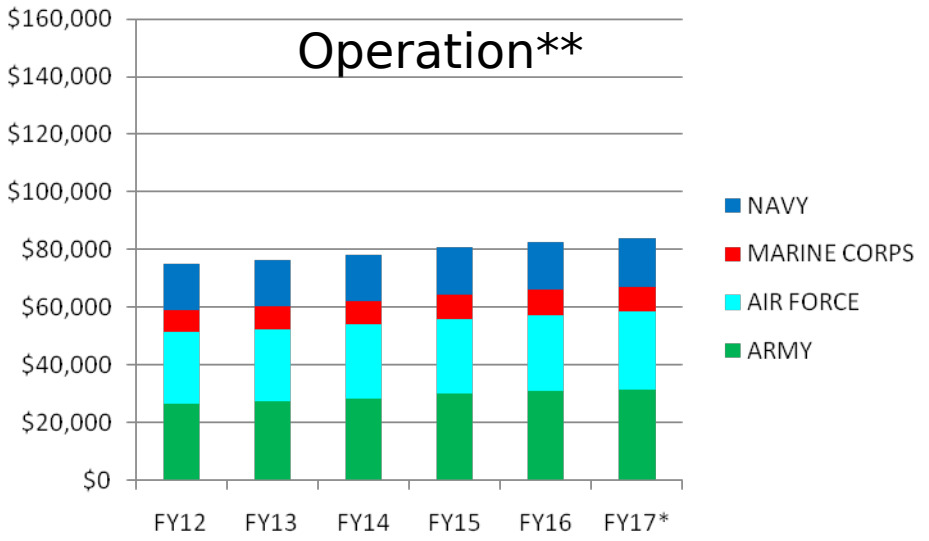
- Covers Only Indoor Fitness Facility Types
- Restoration to Mid-Level Q2 Over 6 Years
- Installation-Wide Operation Functions Excluded
- Service Academies Excluded

IWR Fitness Facilities Costs
ption 3









*** Inflation 1.8% from FY16 to FY17**

**** Operation excludes Installation-Wide Functions**

***** Restoration includes costs to achieve a median Q2 Quality rating of 15% over 6 years**

MWR Fitness Facilities Costs
Option 3

MODERNIZATION REQUIREMENT $K

MWR FITNESS OPTION 3	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$38,296	$39,154	$40,736	$44,076	$45,304	$46,120
AIR FORCE	$32,780	$33,651	$34,435	$34,407	$35,330	$35,966
MARINE CORPS	$9,129	$9,311	$9,500	$9,671	$9,845	$10,022
NAVY	$22,979	$23,090	$23,492	$23,915	$23,840	$24,269
GRAND TOTAL FOR DOD	**$103,184**	**$105,206**	**$108,163**	**$112,070**	**$114,320**	**$116,378**

RESTORATION REQUIREMENT $K (6 yr)

MWR FITNESS OPTION 3	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$18,493	$18,722	$19,058	$19,376	$19,724	$20,079
AIR FORCE	$5,716	$5,813	$5,918	$6,024	$6,133	$6,243
MARINE CORPS	$6,537	$6,649	$6,768	$6,890	$7,014	$7,140
NAVY	$12,947	$13,055	$13,289	$13,529	$13,772	$14,020
GRAND TOTAL FOR DOD	**$43,694**	**$44,238**	**$45,033**	**$45,819**	**$46,642**	**$47,482**

OPERATION REQUIREMENT $K

MWR FITNESS OPTION 3	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$26,636	$27,163	$28,088	$30,051	$30,745	$31,298
AIR FORCE	$24,603	$25,220	$25,780	$26,001	$26,597	$27,076
MARINE CORPS	$7,948	$8,107	$8,261	$8,409	$8,561	$8,715
NAVY	$15,689	$15,872	$16,120	$16,410	$16,464	$16,760
GRAND TOTAL FOR DOD	**$74,877**	**$76,362**	**$78,249**	**$80,872**	**$82,366**	**$83,849**

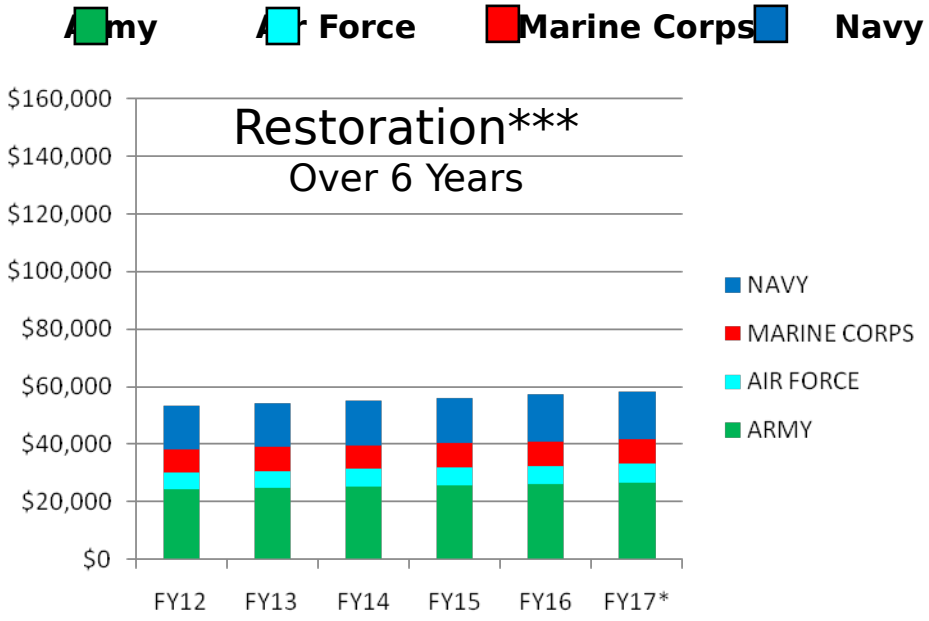
SUSTAINMENT REQUIREMENT $K

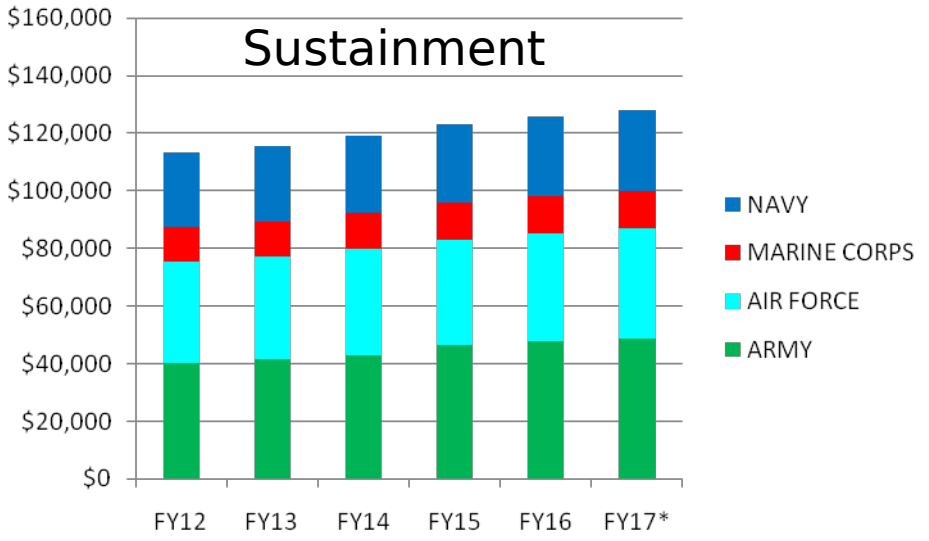
MWR FITNESS OPTION 3	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$37,659	$38,530	$40,164	$43,600	$44,836	$45,643
AIR FORCE	$33,092	$34,033	$34,850	$34,742	$35,710	$36,353
MARINE CORPS	$11,124	$11,354	$11,582	$11,790	$12,003	$12,219
NAVY	$23,357	$23,482	$23,896	$24,325	$24,208	$24,644
GRAND TOTAL FOR DOD	**$105,231**	**$107,399**	**$110,492**	**$114,457**	**$116,757**	**$118,859**

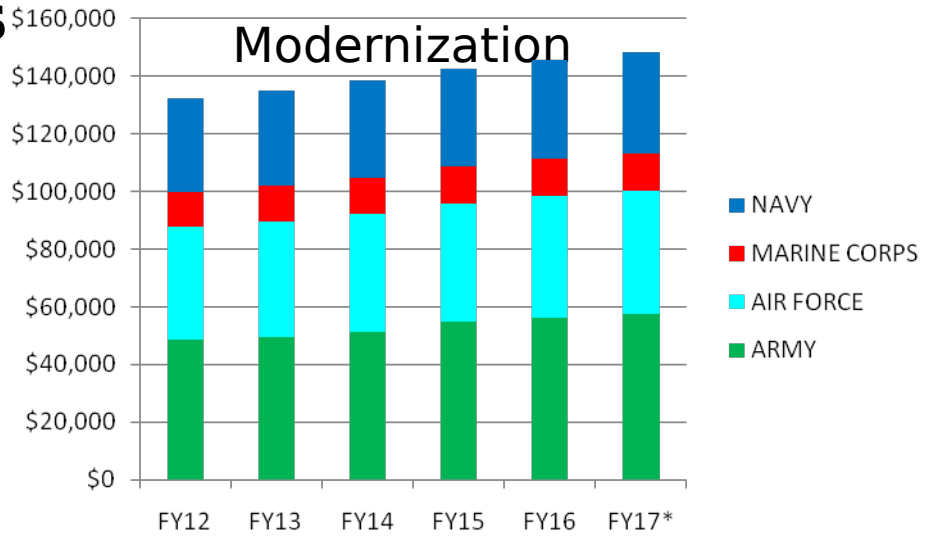
MWR FITNESS OPTION 3:

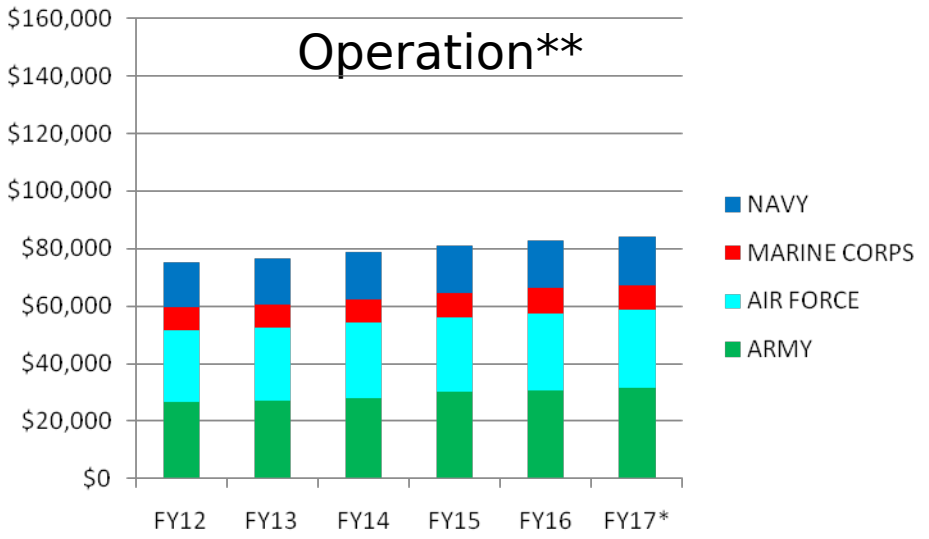
- Covers Indoor Fitness Facility Types, Athletic Fields, & Outdoor Courts
- Restoration to Mid-Level Q2 Over 6 Years
- Installation-Wide Operation Functions Excluded
- Service Academies Excluded

IWR Fitness Facilities Costs
ption 4









*** Inflation 1.8% from FY16 to FY17**

**** Operation excludes Installation-Wide Functions**

***** Restoration includes costs to achieve a median Q2 Quality rating of 15% over 6 years**

MWR Fitness Facilities Costs
Option 4

MODERNIZATION REQUIREMENT $K

MWR FITNESS OPTION 4	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$48,525	$49,558	$51,371	$54,904	$56,286	$57,299
AIR FORCE	$39,130	$40,109	$41,009	$41,057	$42,100	$42,858
MARINE CORPS	$11,967	$12,197	$12,438	$12,662	$12,889	$13,121
NAVY	$32,680	$32,956	$33,535	$34,139	$34,248	$34,865
GRAND TOTAL FOR DOD	**$132,301**	**$134,820**	**$138,354**	**$142,762**	**$145,524**	**$148,144**

RESTORATION REQUIREMENT $K (6 yr)

MWR FITNESS OPTION 4	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$24,338	$24,666	$25,109	$25,536	$25,995	$26,463
AIR FORCE	$6,061	$6,164	$6,274	$6,387	$6,502	$6,619
MARINE CORPS	$7,985	$8,120	$8,266	$8,415	$8,566	$8,721
NAVY	$15,166	$15,311	$15,586	$15,867	$16,152	$16,443
GRAND TOTAL FOR DOD	**$53,549**	**$54,261**	**$55,236**	**$56,206**	**$57,216**	**$58,246**

OPERATION REQUIREMENT $K

MWR FITNESS OPTION 4	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$26,742	$27,271	$28,199	$30,164	$30,860	$31,415
AIR FORCE	$24,683	$25,301	$25,863	$26,085	$26,682	$27,162
MARINE CORPS	$7,983	$8,142	$8,296	$8,446	$8,598	$8,752
NAVY	$15,770	$15,955	$16,204	$16,496	$16,551	$16,849
GRAND TOTAL FOR DOD	**$75,179**	**$76,669**	**$78,563**	**$81,190**	**$82,690**	**$84,179**

SUSTAINMENT REQUIREMENT $K

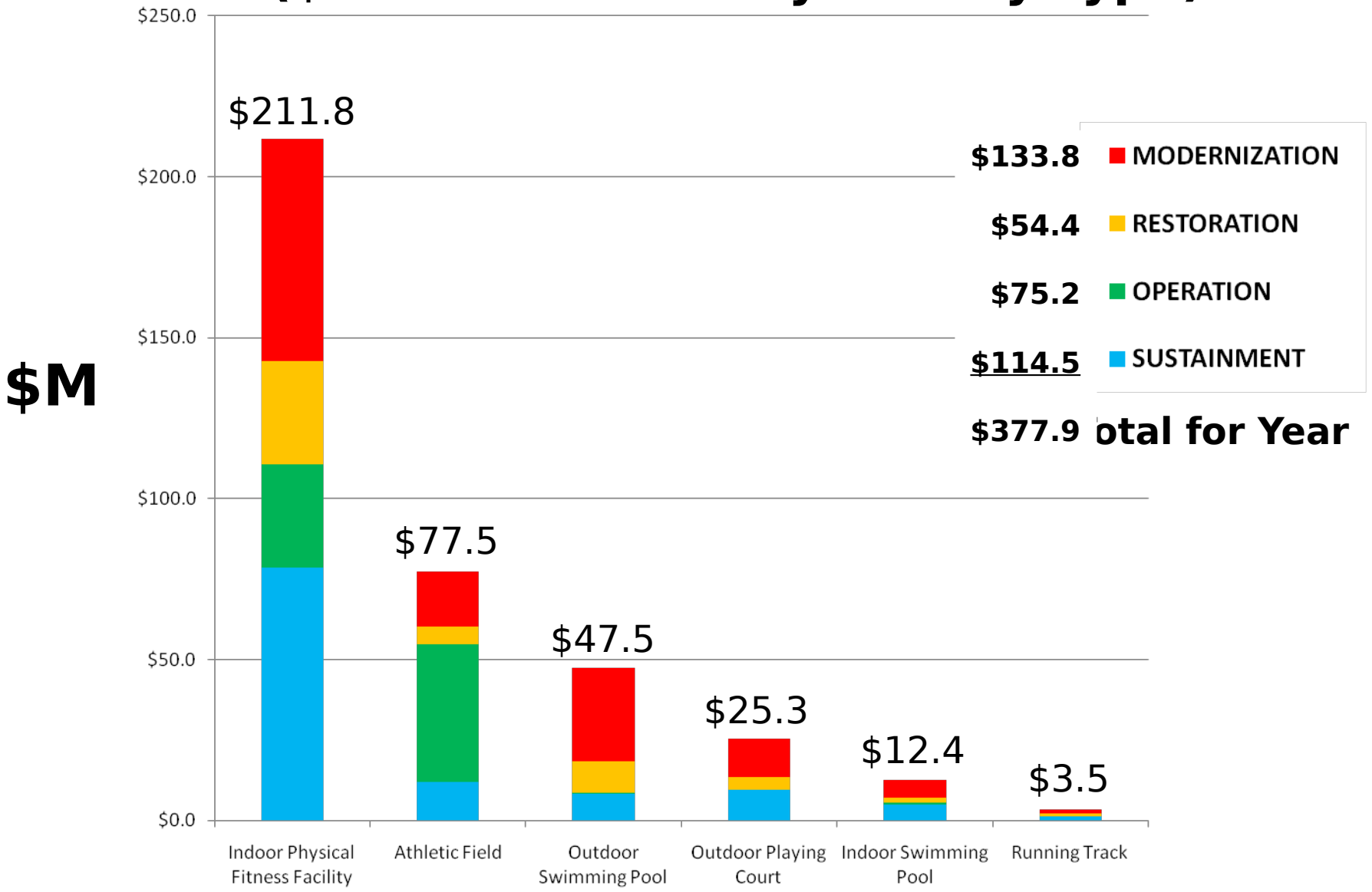
MWR FITNESS OPTION 4	FY12	FY13	FY14	FY15	FY16	FY17*
ARMY	$40,433	$41,354	$43,052	$46,540	$47,818	$48,679
AIR FORCE	$34,874	$35,847	$36,696	$36,610	$37,612	$38,289
MARINE CORPS	$11,984	$12,230	$12,474	$12,698	$12,927	$13,159
NAVY	$26,128	$26,303	$26,768	$27,249	$27,185	$27,674
GRAND TOTAL FOR DOD	**$113,419**	**$115,734**	**$118,990**	**$123,097**	**$125,542**	**$127,801**

MWR FITNESS OPTION 4:

- Covers Indoor Fitness Facility Types, Athletic Fields, Outdoor Courts, & Outdoor Pools
- Restoration to Mid-Level Q2 Over 6 Years
- Installation-Wide Operation Functions Excluded
- Service Academies Excluded

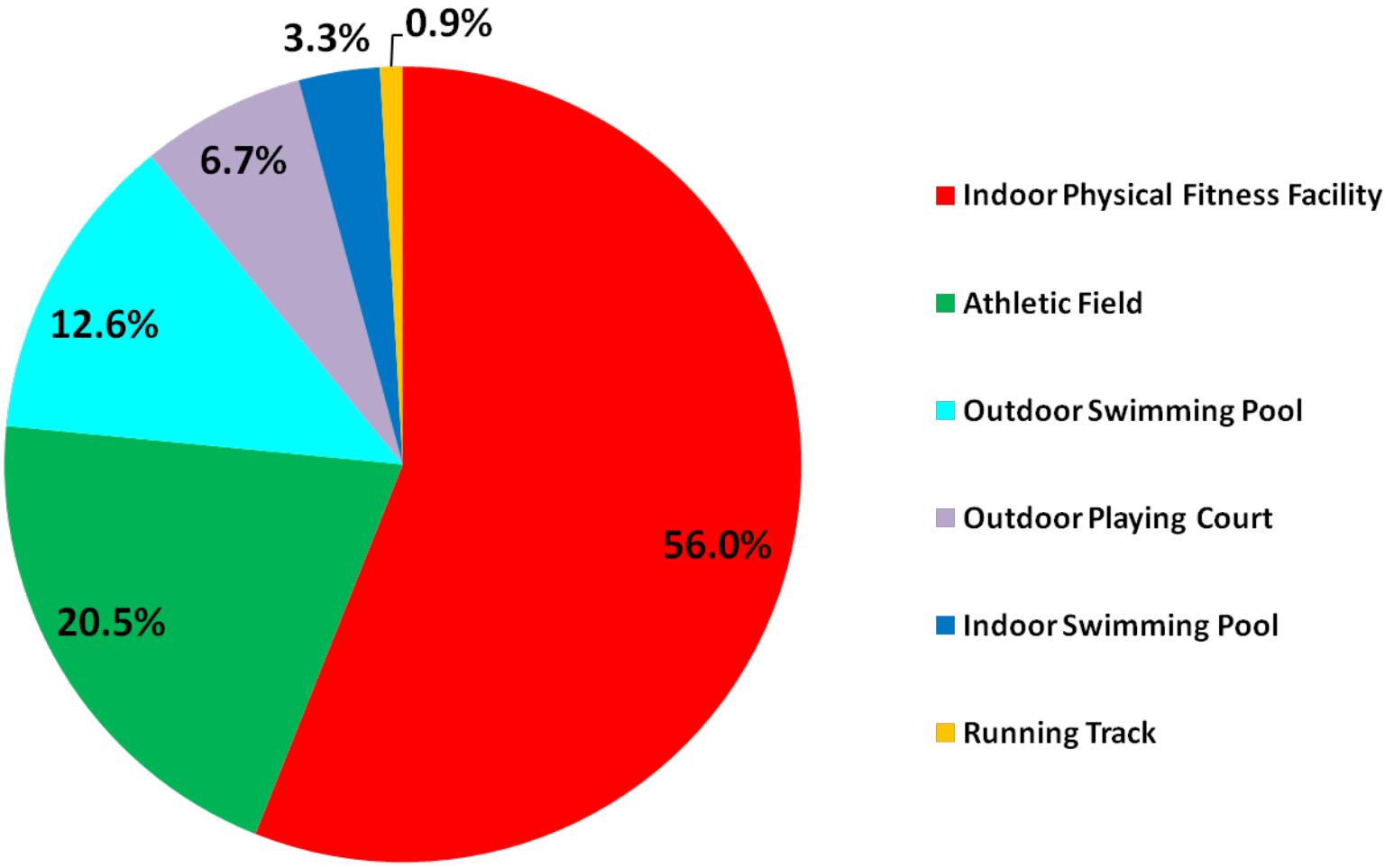
Option 1 Model Requirements

($M/Year in 2012 by Facility Type)



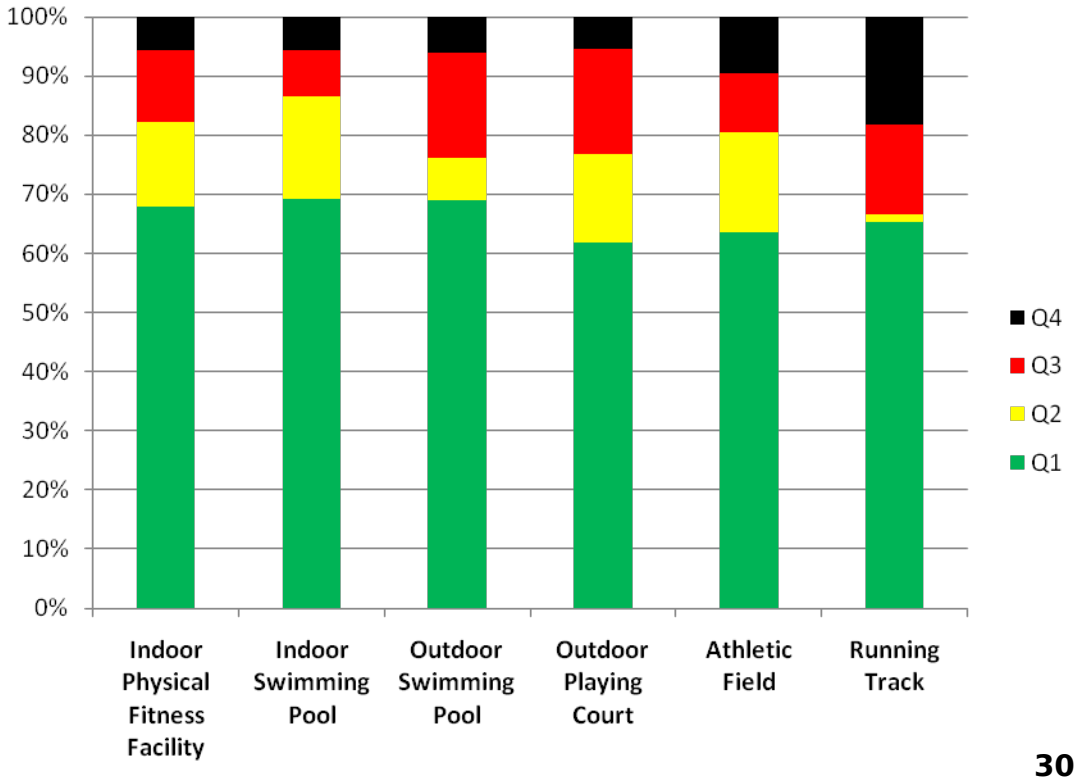
Combined Model Requirements

(Percent in 2012 by Facility Type)



Facility Quality Ratings
(As Reported by Military Services)

Code	Description
Q1	The sum of all necessary restoration and modernization costs is not greater than 10 percent of the replacement value of the facility (PRV).
Q2	The sum of all necessary restoration and modernization costs is greater than 10 percent but not greater than 20 percent of the replacement value of the facility (PRV).
Q3	The sum of all necessary restoration and modernization costs is greater than 20 percent but not greater than 40 percent of the replacement value of the facility (PRV).
	The sum of all necessary restoration and modernization costs is greater than 40 percent of the replacement value of the facility (PRV).



R&K Engineering Planning Systems

Facility Quality Costs

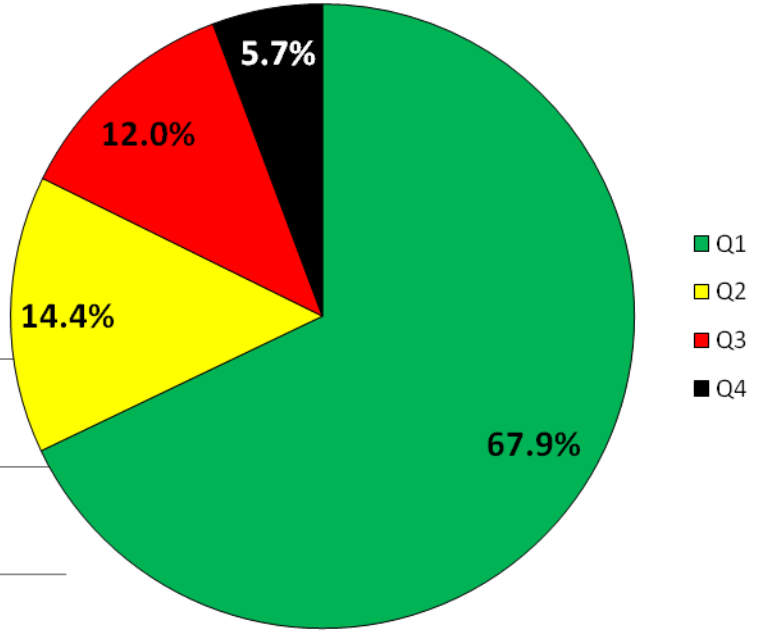
($M One-Time Costs)

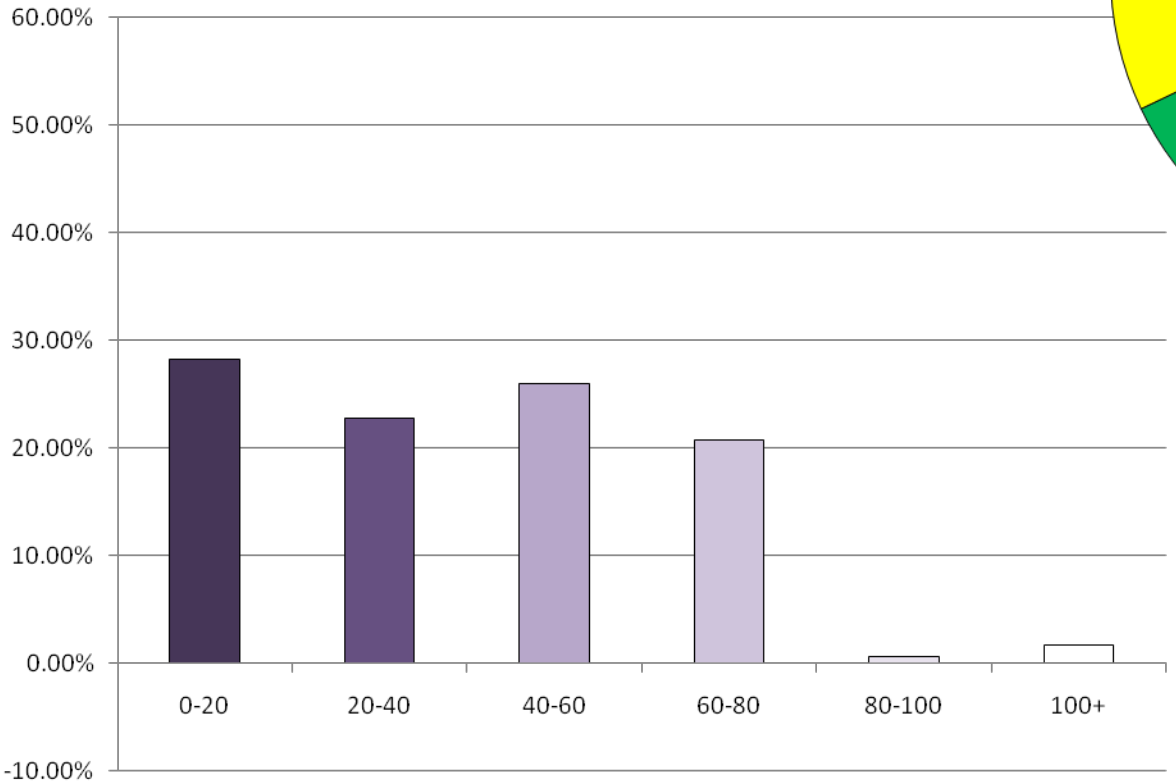
Facility Type	Total Fix	Fix to Mid Q1	Fix to Mid Q2	Avg Age
Indoor Physical Fitness Facility	$684.4	$400.2	$216.5	39.69
Indoor Swimming Pool	$42.3	$22.9	$10.9	37.28
Outdoor Swimming Pool	$177.8	$109.6	$67.0	43.87
Outdoor Playing Court	$74.6	$46.77	$25.6	29.83
Athletic Field	$106.2	$65.2	$36.7	34.66
Running Track	$10.8	$7.5	$5.4	21.41
TOTAL:	$1,096.1	$652.2	$362.2	

Facility Quality Ratings & Age
(Indoor Physical Fitness Facility)

Average Age = 40

Service Life = 45

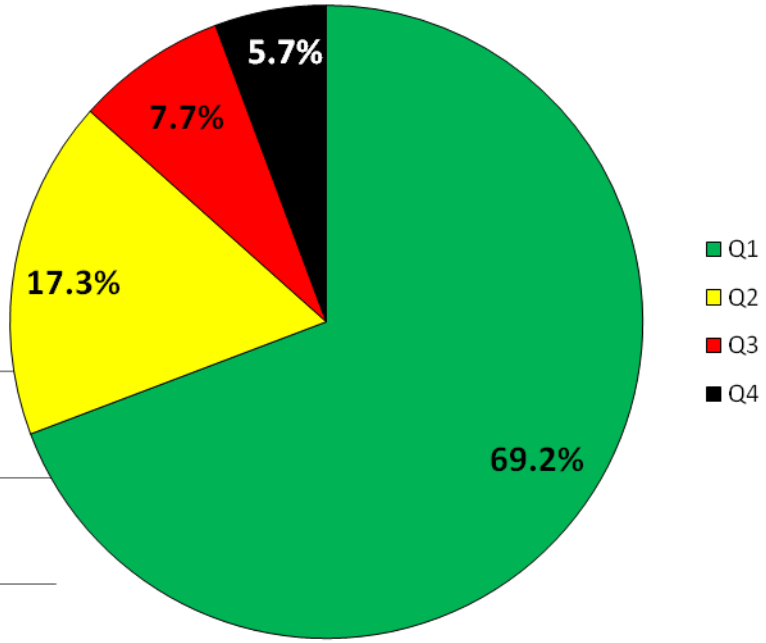


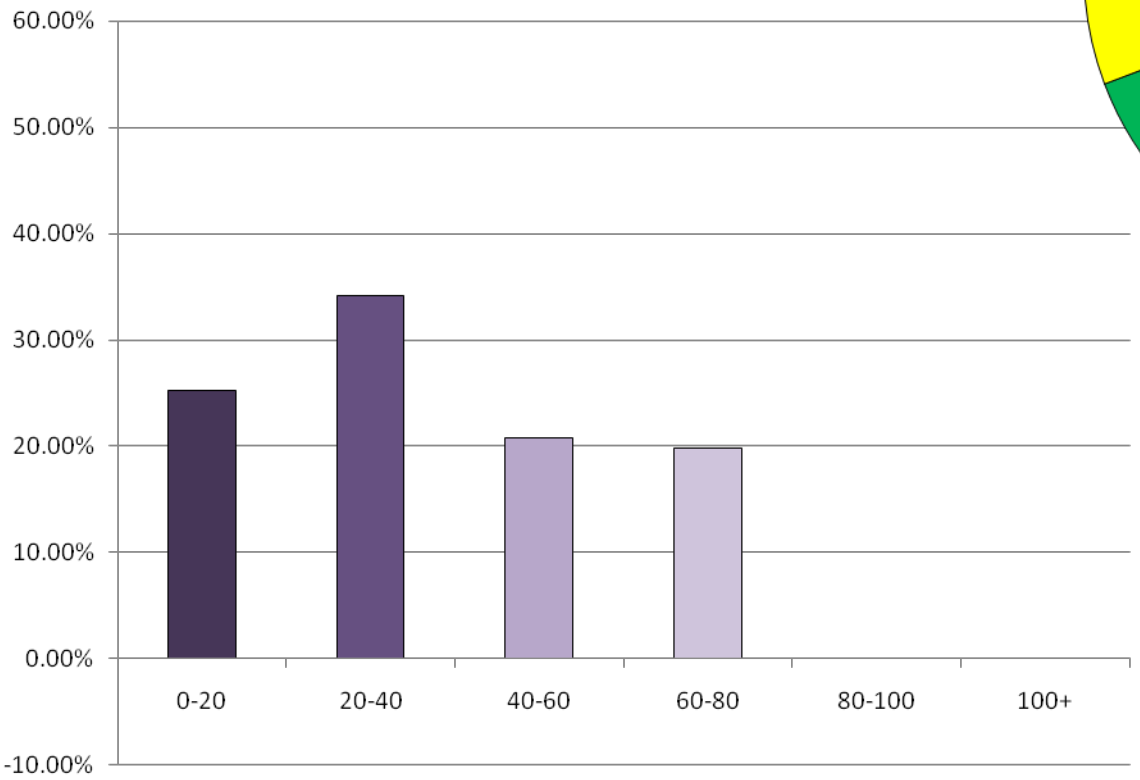


Facility Quality Ratings & Age
(Indoor Swimming Pool)

Average Age = 37

Service Life = 40

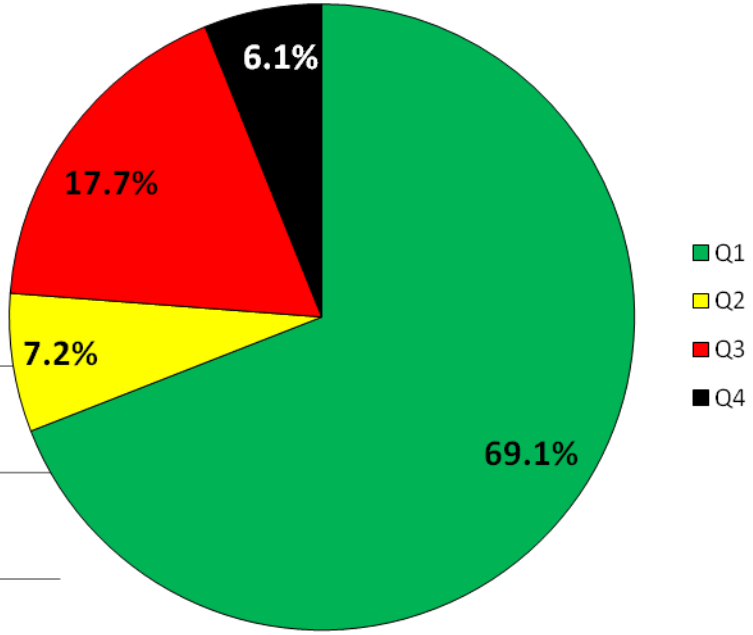


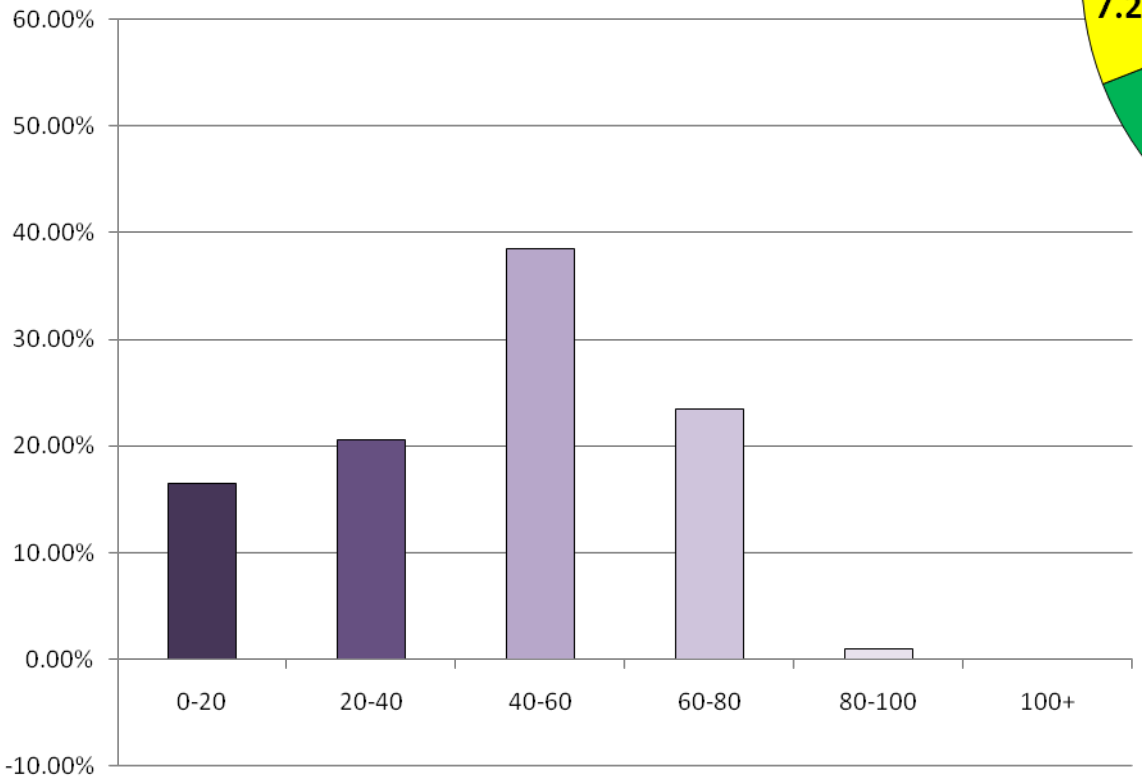


Facility Quality Ratings & Age
(Outdoor Swimming Pool)

Average Age = 44

Service Life = 25

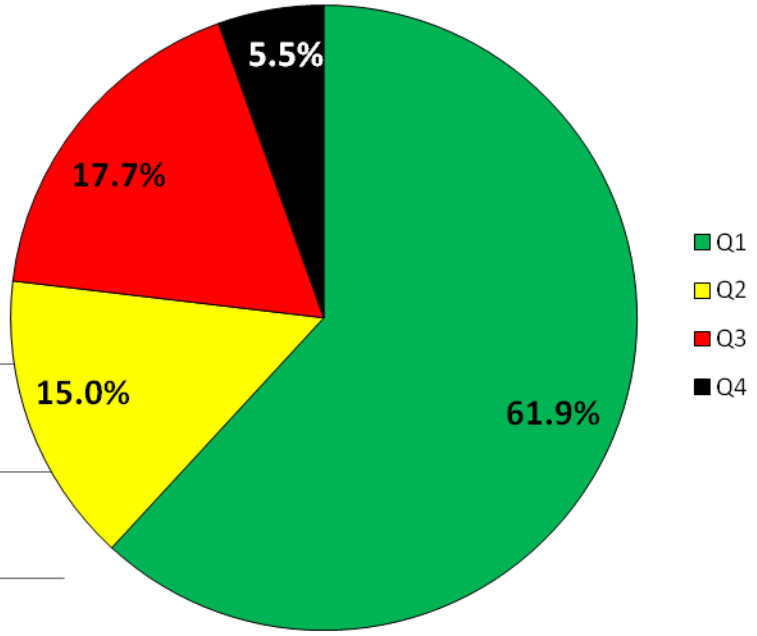


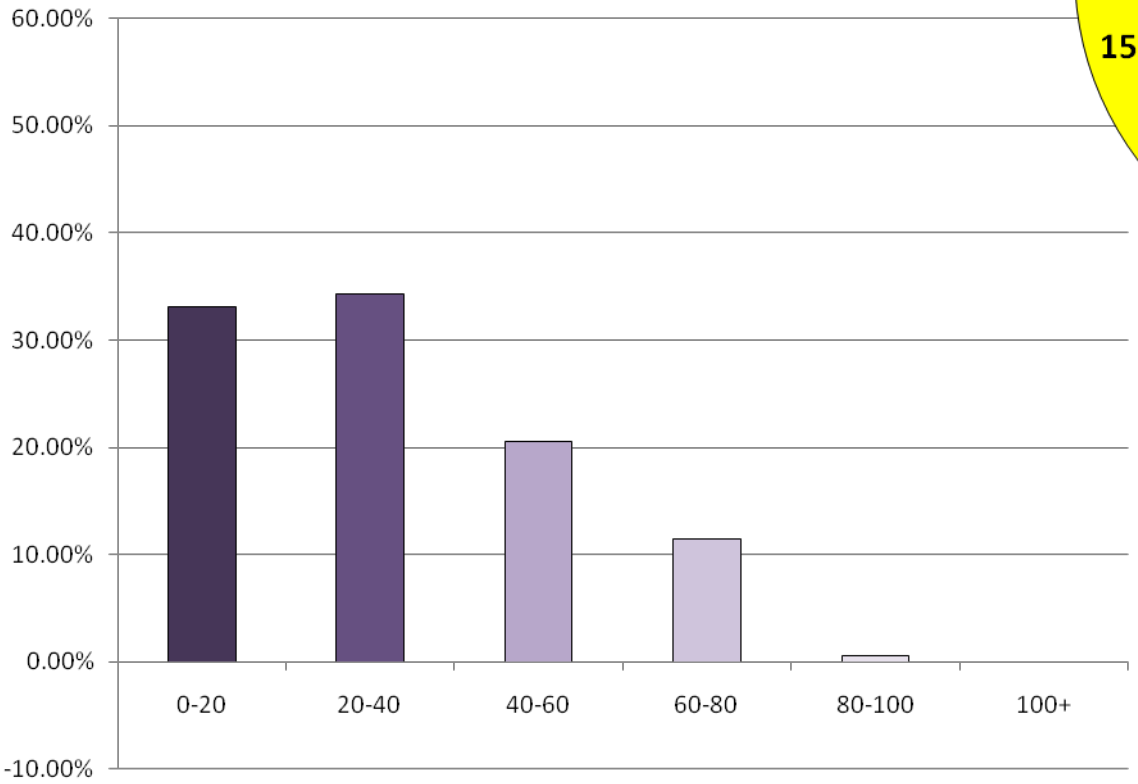


Facility Quality Ratings & Age
(Outdoor Playing Court)

Average Age = 30

Service Life = 25

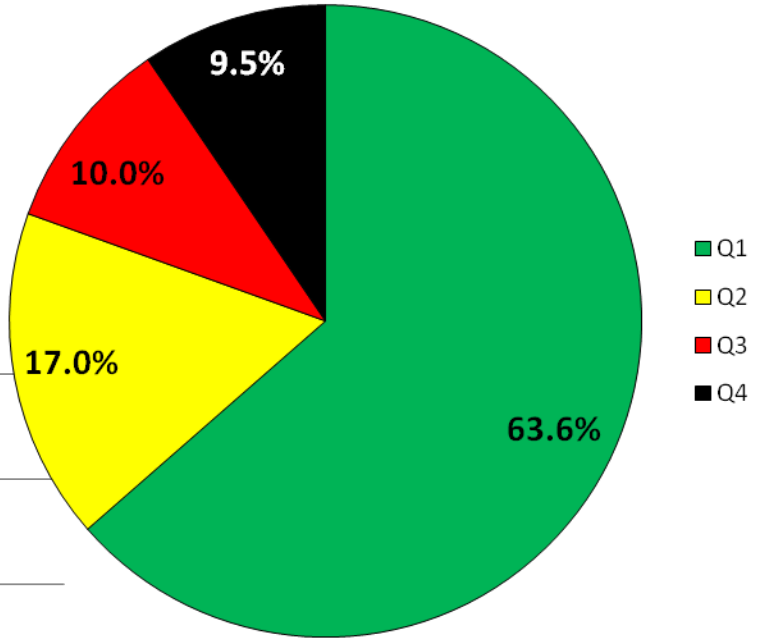


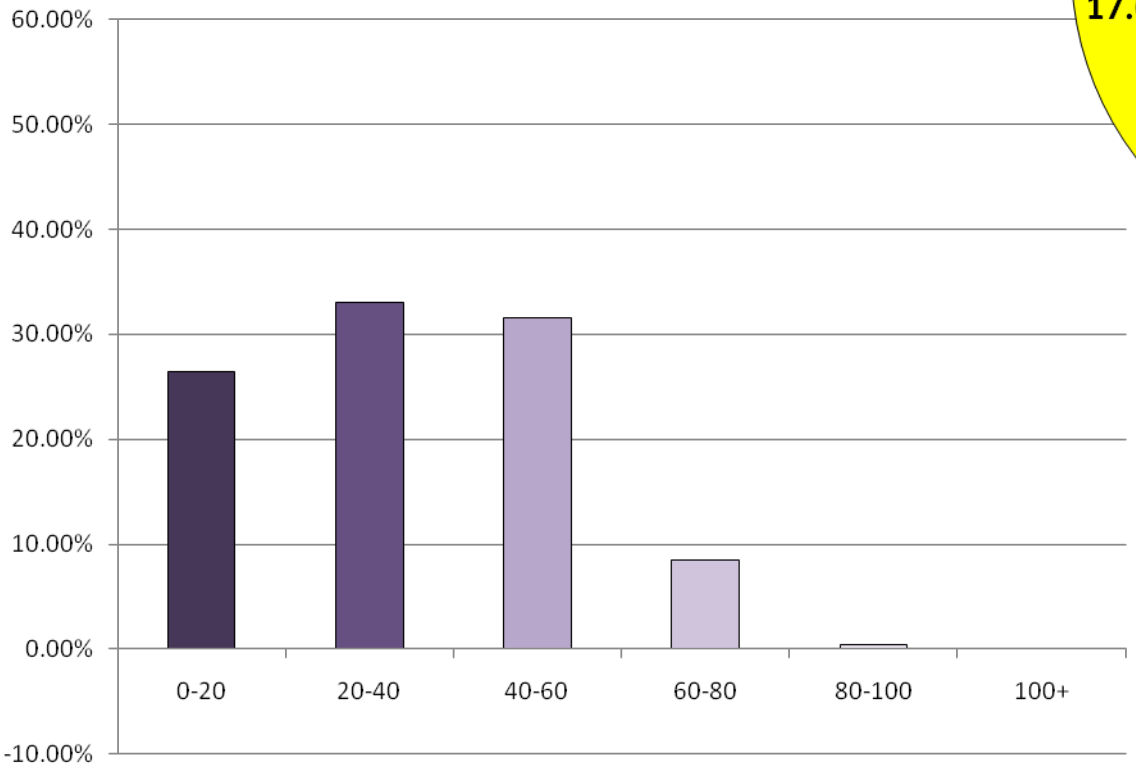


Facility Quality Ratings & Age
(Athletic Field)

Average Age = 35

Service Life = 25





Facility Quality Ratings & Age
(Running Track)

Average Age = 21

Service Life = 25